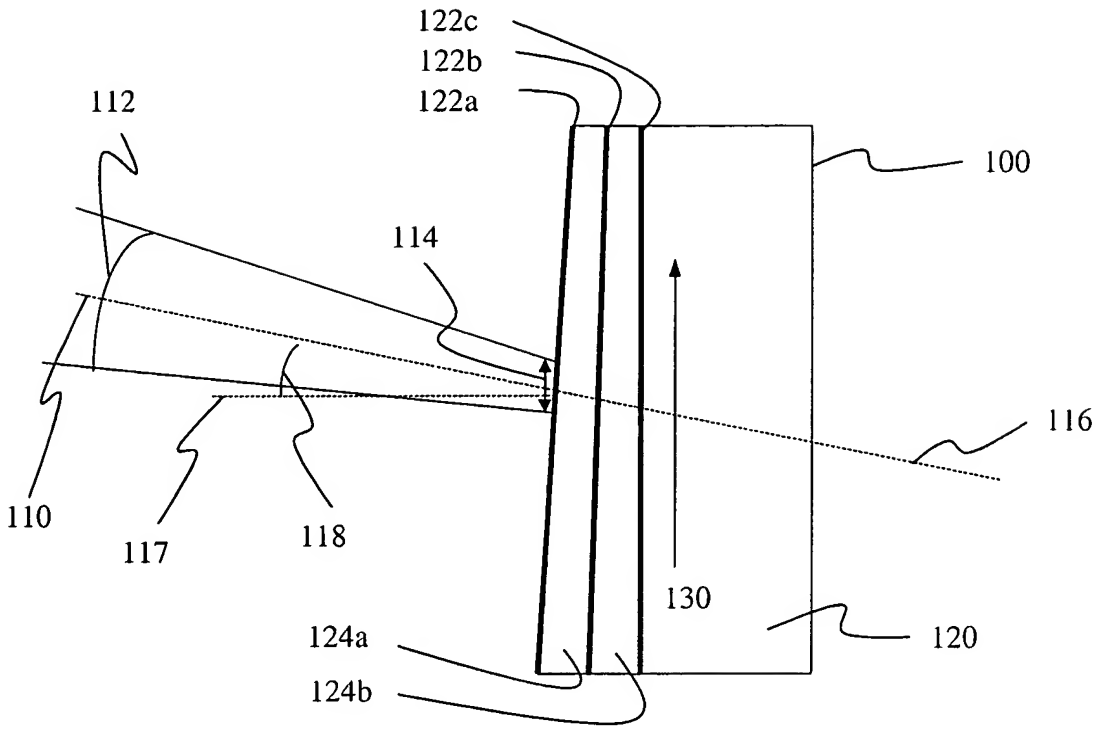

Fig. 1

EP 1 655 626 A1

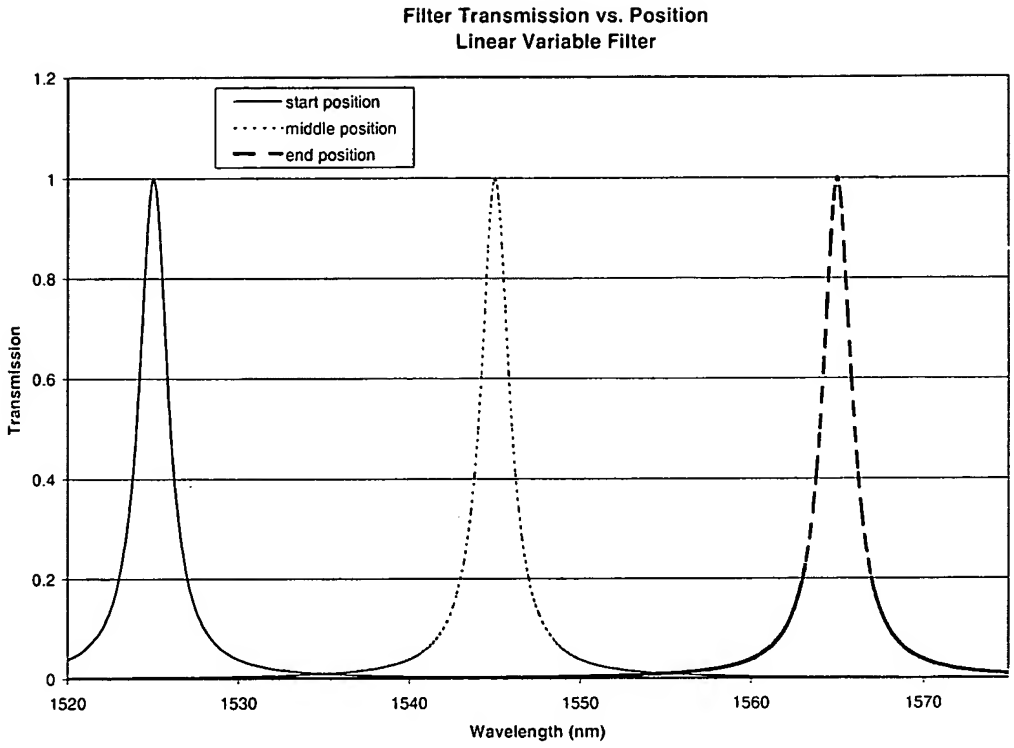

Fig. 2

EP 1 760 503 A1

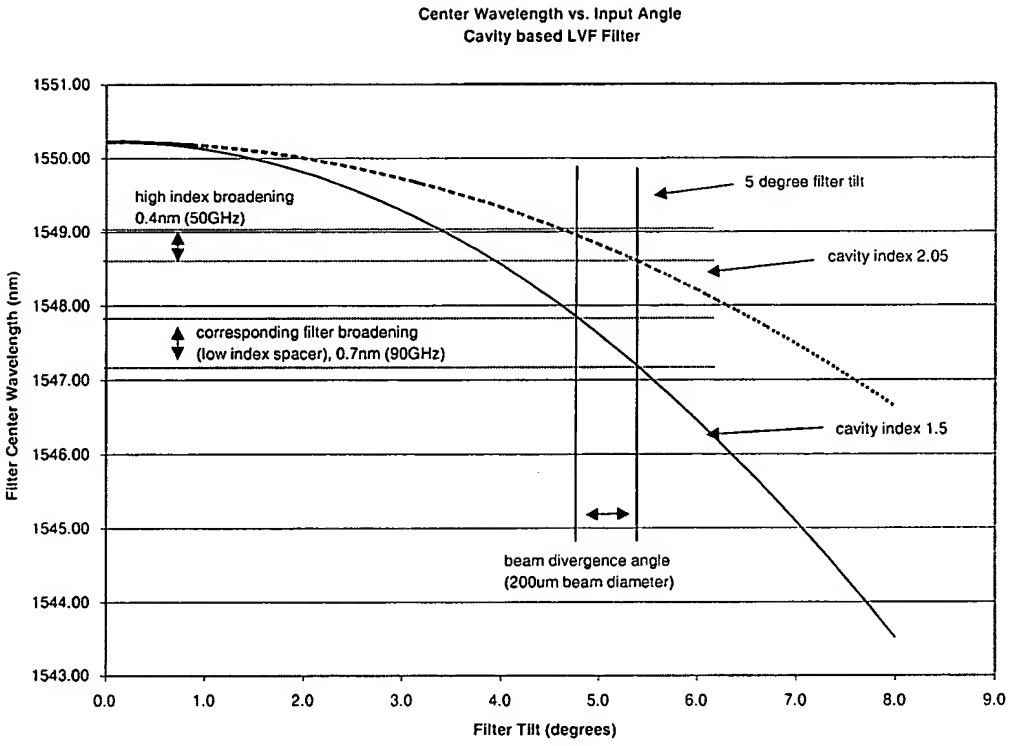

Fig. 3

EP 1 505 424 A1

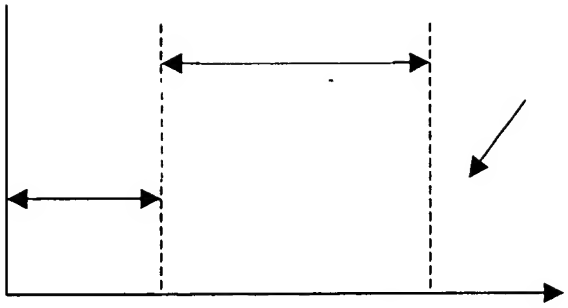

Fig. 4

EP 1 005 944 A2

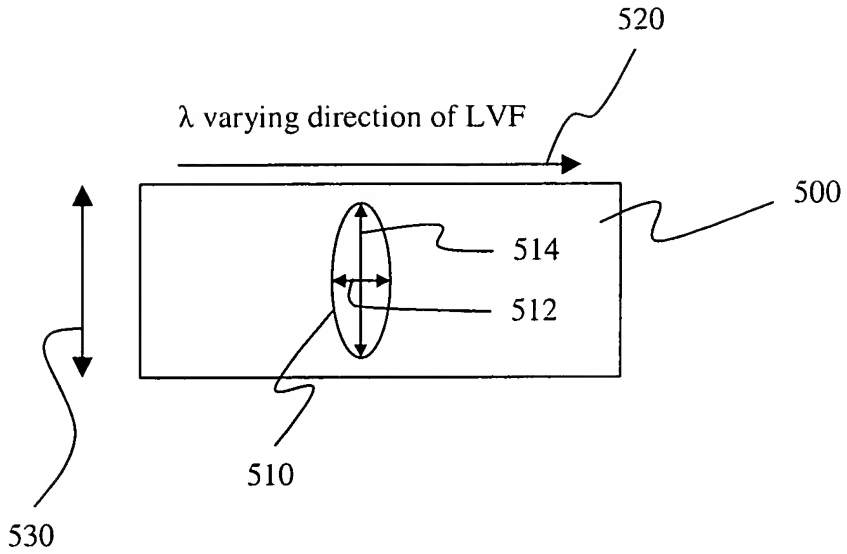

Fig. 5

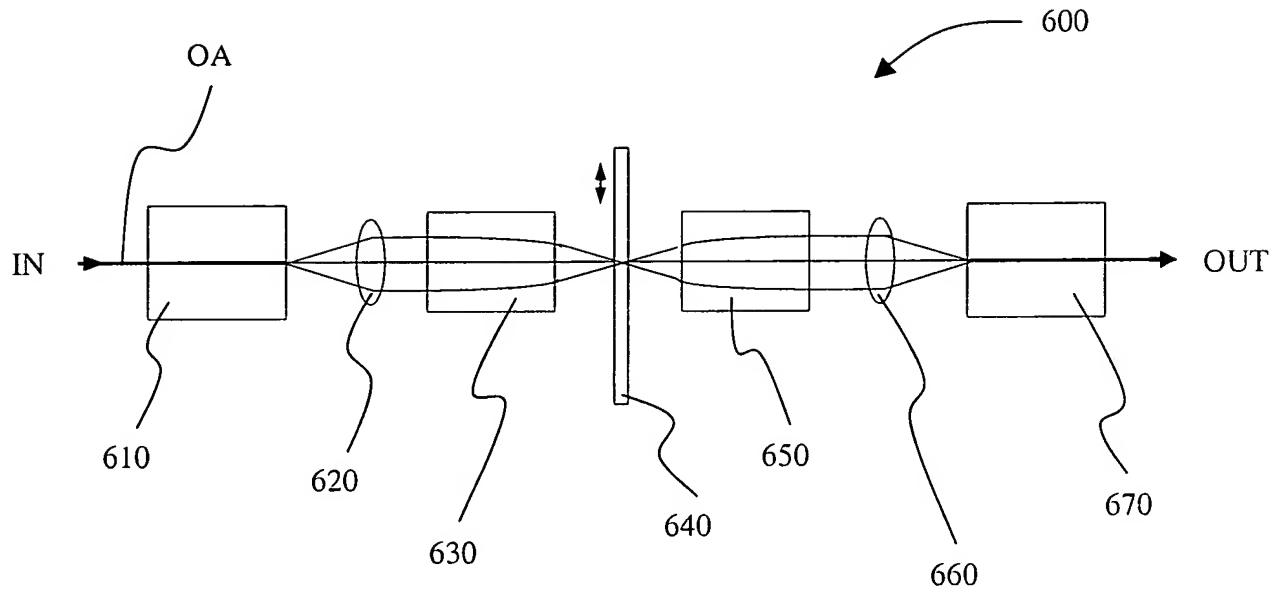
600
OA
IN
OUT
610
620
630
640
650
660
670

Fig. 6a

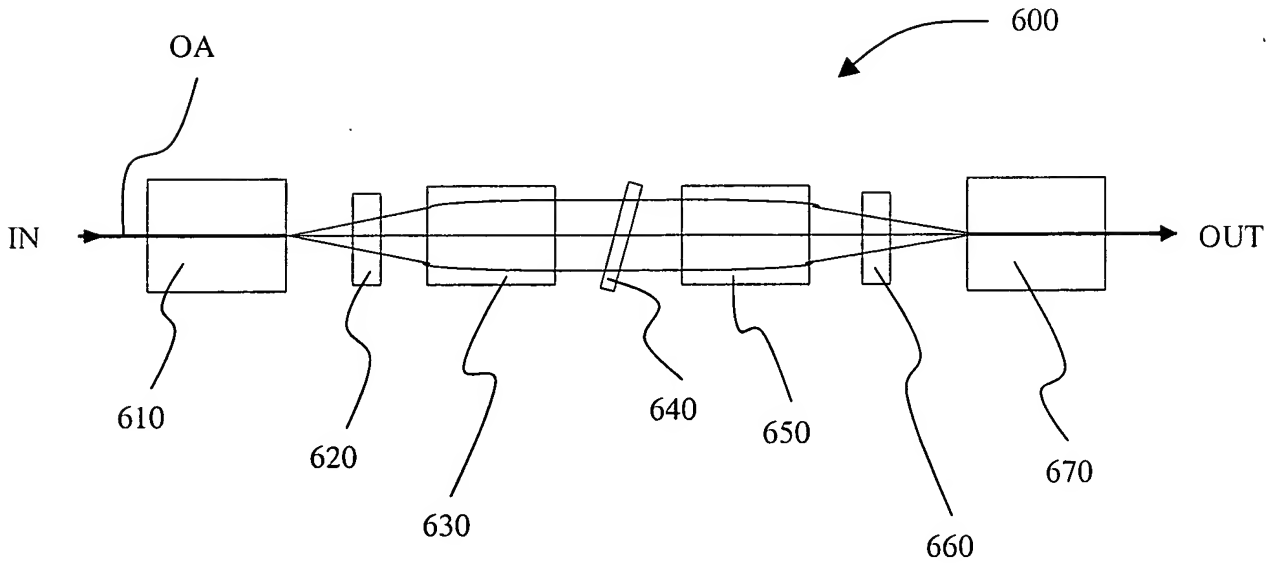
600
OA
IN
OUT
610
620
630
640
650
660
670

Fig. 6b

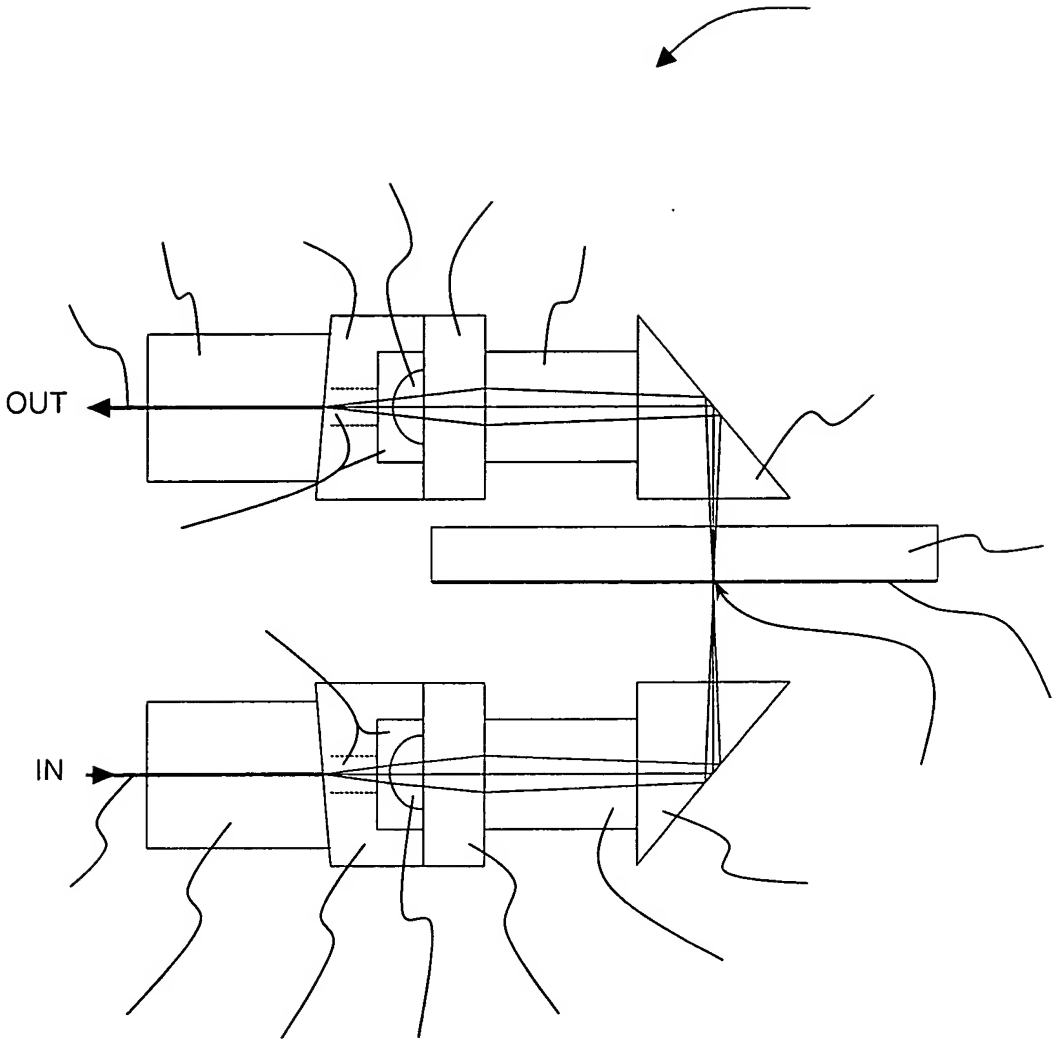

Fig. 7

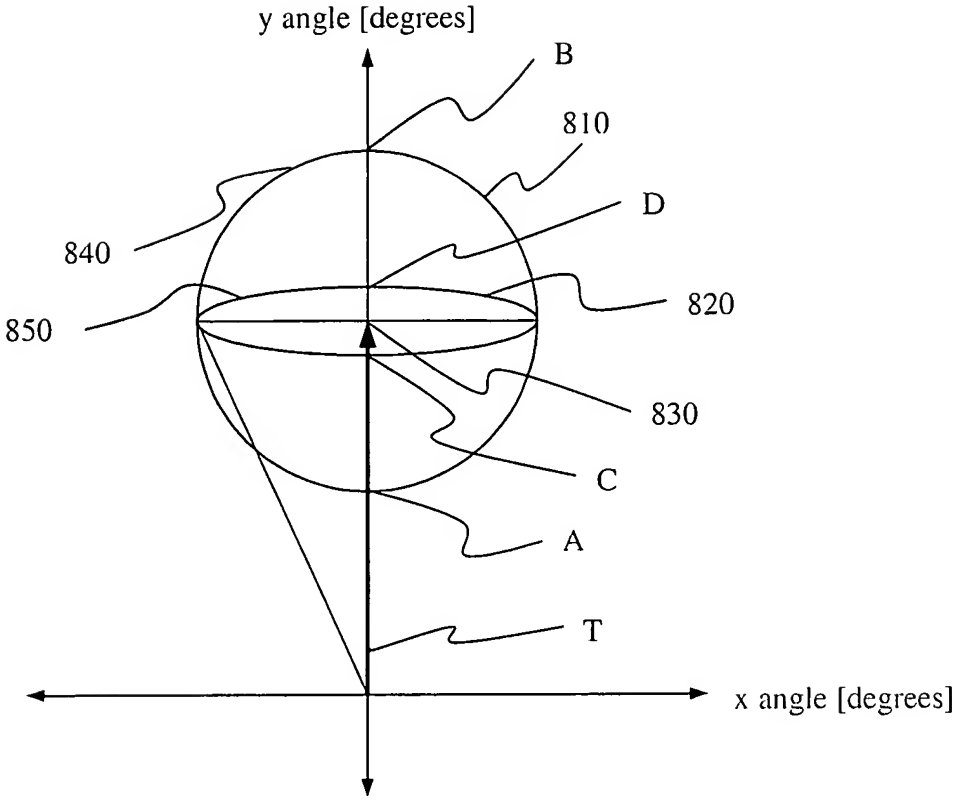

Fig. 8

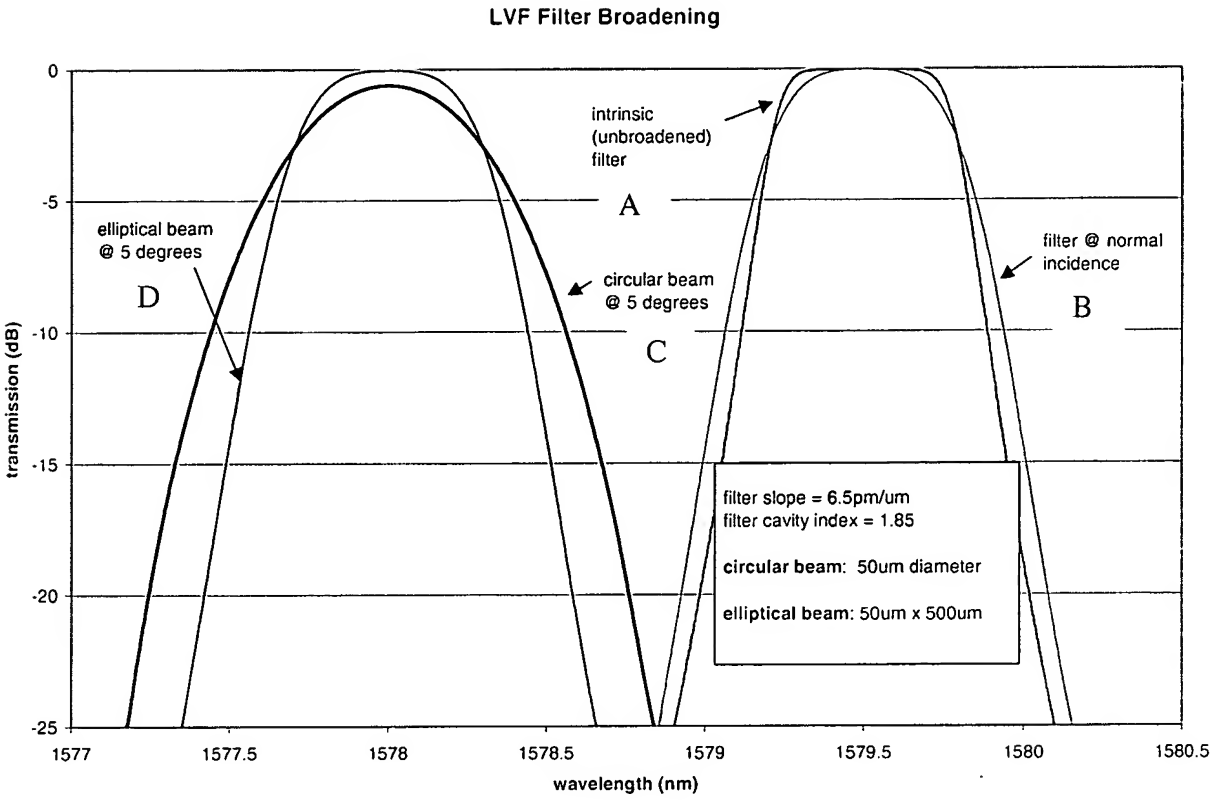
LVF Filter Broadening
transmission (dB)
0
-5
-10
-15
-20
-25
1577
1577.5
1578
1578.5
1579
1579.5
1580
1580.5
wavelength (nm)
intrinsic
(unbroadened)
filter
A
elliptical beam
@ 5 degrees
D
circular beam
@ 5 degrees
C
filter @ normal
incidence
B
filter slope = 6.5pm/um
filter cavity index = 1.85
circular beam: 50um diameter
elliptical beam: 50um x 500um

Fig. 9

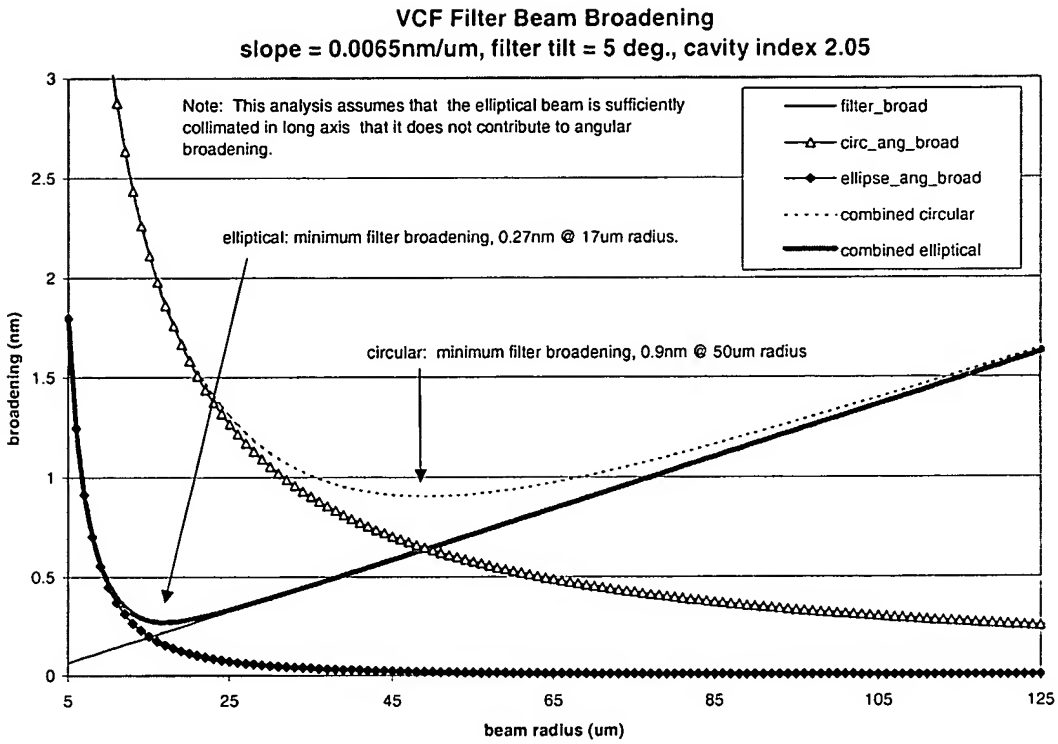
VCF Filter Beam Broadening
slope = 0.0065nm/um, filter tilt = 5 deg., cavity index 2.05
Note: This analysis assumes that the elliptical beam is sufficiently collimated in long axis that it does not contribute to angular broadening.
elliptical: minimum filter broadening, 0.27nm @ 17um radius.
circular: minimum filter broadening, 0.9nm @ 50um radius
filter_broad
circ_ang_broad
ellipse_ang_broad
combined circular
combined elliptical
broadening (nm)
beam radius (um)
0
0.5
1
1.5
2
2.5
3
5
25
45
65
85
105
125

Fig. 10

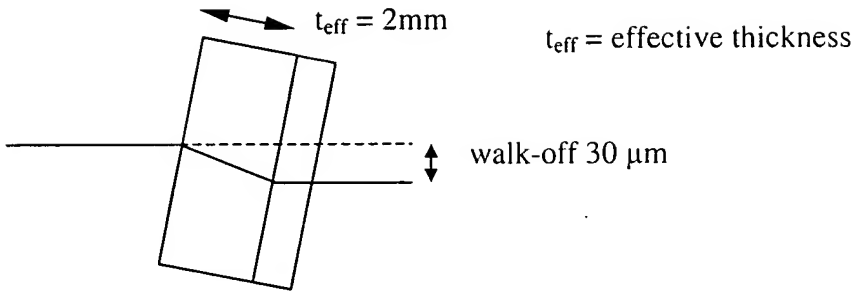

Fig. 11

EP 1 054 250 A2

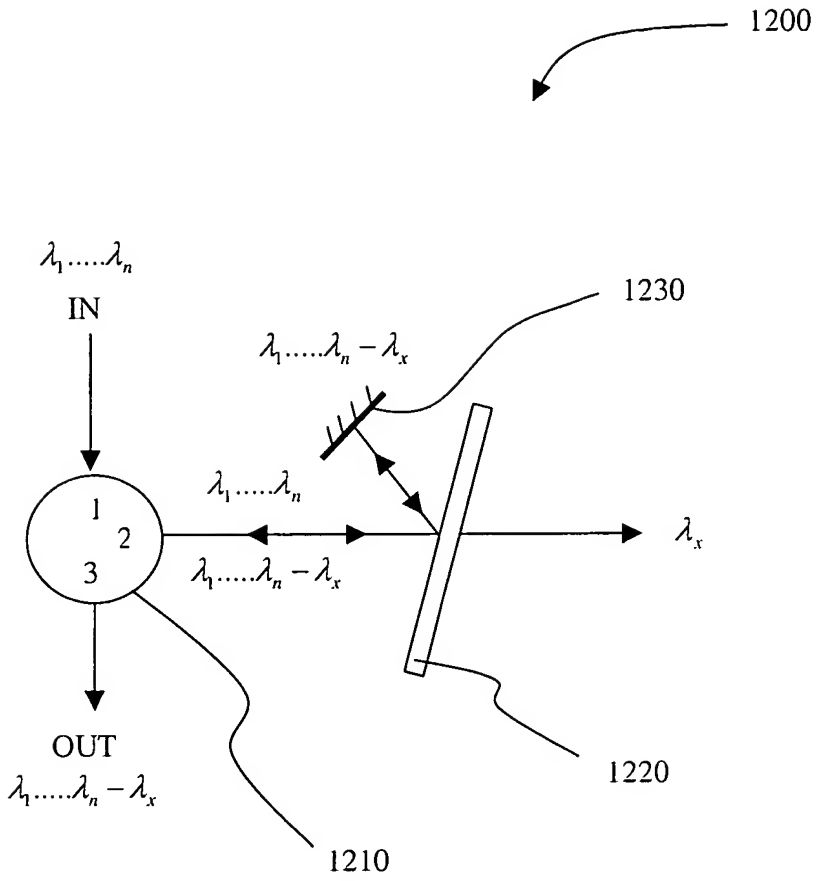
1200
$\lambda_1 \ldots\ldots \lambda_n$
IN
1230
$\lambda_1 \ldots\ldots \lambda_n - \lambda_x$
$\lambda_1 \ldots\ldots \lambda_n$
1
2
3
λ_x
$\lambda_1 \ldots\ldots \lambda_n - \lambda_x$
OUT
$\lambda_1 \ldots\ldots \lambda_n - \lambda_x$
1220
1210

Fig. 12

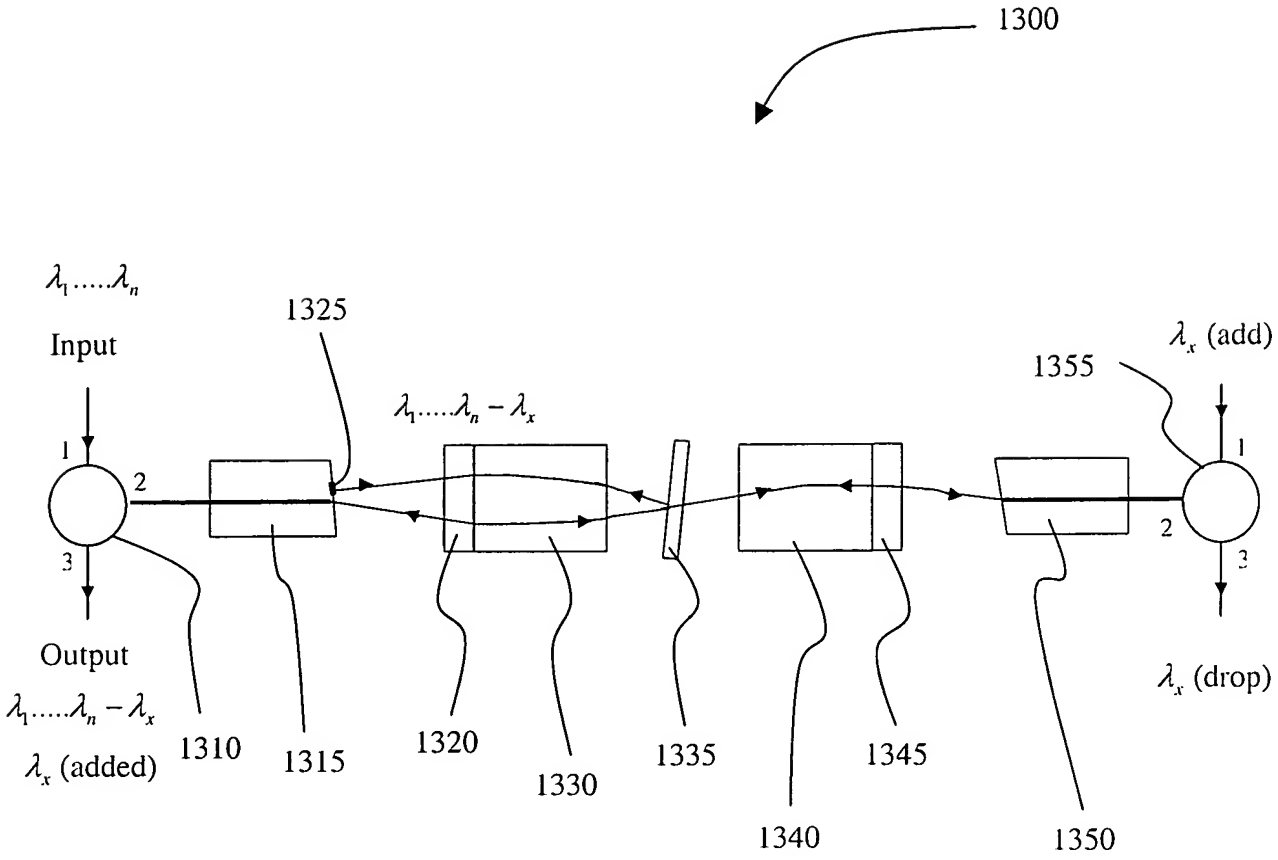
1300
$\lambda_1 \ldots\ldots \lambda_n$
Input
1325
$\lambda_1 \ldots\ldots \lambda_n - \lambda_x$
λ_x (add)
1355
1
2
3
Output
$\lambda_1 \ldots\ldots \lambda_n - \lambda_x$
λ_x (added)
1310
1315
1320
1330
1335
1340
1345
1350
λ_x (drop)

Fig. 13